W5YI

National Volunteer Examiner Coordinator

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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★ *In This Issue* ★

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FCC RELEASES NEW PROPOSED PART 97 RULES

The Federal Register of April 19th details the new streamlined Amateur Radio Service Rules proposed by the FCC. The document [PR Docket No. 88-139] is made necessary "because advances in technology and operating practices have made the current operating rules difficult to apply to modern communications practices."

The new Part 97 rules, reduced by about 40%, create a regulatory environment that will encourage modern techniques, technology and uses of amateur radio. "We wish to recognize and encourage the experimental nature of the amateur service," the FCC said. "It is appropriate to avoid, to the extent possible, placing in the rules detailed regulations and specifications for the configuration and operation of various amateur communications systems. Such regulations would reduce the flexibility that is a hallmark of a service free to branch out and follow an infinite number of paths. ...Our regulatory approach is to state the basic requirements that each amateur operator and station must observe."

THE NEED TO UPDATE THE AMATEUR RULES

The current Part 97 "is based on concepts associated with hand keyed telegraphy and amplitude modulated telephony" dating back to the early 1950's. "Over the years a host of new technologies emerged and became popular in the amateur service: single sideband and frequency modulated telephony, very-high and ultra-high frequency repeaters, radio teleprinting, satellite transponders, digital communications, television, etc. [Amateur operators in the United States and Canada operate a system of some 12,000 repeater stations.] Rule additions and revisions to accomodate these technologies have been adopted as needed. The result is a patchwork of rules that can be confusing, particularly to prospective licensees."

The FCC said "This proceeding also provides an excellent opportunity to clarify the terminology used in the rules."

PROPOSED RESTRUCTURING OF PART 97

The FCC plans the amend the Amateur Radio Service Rules into six subparts and four appendices. Their NPRM [released April 13th] runs to nearly 100 typewritten pages. Capsulized highlights of general interest from the new proposed Part 97 follow:

Subpart A: General Provisions

...contains those rules concerned principally with license and station location requirements.

Restated: Basis and Purpose remain as 97.1. Definition is stated of the three radio services governed by Part 97 (Amateur Service/AMSAT/RACES) ....and types/limitations on operator/station licenses, antenna restrictions, etc.

Added: "...amateur equipment shall not be operated while any aircraft is operating under Instrument Flight Rules unless the equipment has been found to comply with all FAA rules." **Clarified:** "use of

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a common antenna in voluntary ship radio installations does not violate the rule requiring that an amateur station must be separate from and independent of all other radio apparatus installed on the same ship."

Added: "Amateur stations in close proximity to Commission monitoring facilities must protect these facilities from harmful interference." [Engineer-in-Charge of local FCC offices has authority to impose operating restrictions on any amateur station failing to protect Commission monitoring facilities from harmful interference.]

Revised: "Current 97.95 specifies rules for amateur station operation away from the licensed fixed station location. The original concept of a fixed station location revolved aound an amateur operator's "ham shack" - a room or small building where the station's transmitting and receiving devices were located. More often than not, these devices were built by the amateur operator, and, because of the state of technology at that time, incorporated delicate and bulky components including vacuum tubes, transformers and capacitors that made the devices not very portable."

"Today's amateur stations often employ commercially manufactured equipment. In the age of the microprocessor and the integrated circuit this equipment is highly portable. It is common for amateur operators to carry hand-held transceivers capable of accessing many local repeaters in urban areas and also capable of reasonably good line-of-sight communication. It appears that the concept of fixed station operation no longer carries with it the same connotation it did previously. For this reason, we propose to delete current rules that relate to station operation away from the authorized fixed station location."

Subpart B: Fundamental Purposes of the Amateur Service

...organizes appropriate rules into groupings relating to the five principles of purpose expressed in 97.1: (a.) serving the public, (b.) advancing the radio art, (c.) advancing skills, (d.) training operators and (e.) enhancing international goodwill. Each of these five principles become a subheading for the rules related to that principle.

(a.) Serving the Public - ITU Radio Regulations pertaining to emergency communications are stated. These specificcally include assisting in meeting essential communication needs when normal communications systems are overloaded, damaged or disrupted because of a natural disaster. Included is the general international provision for assisting stations in distress ...and the FCC policy for providing communications for public gatherings if the public is the main beneficiary.

(b.) Advancing the Radio Art - "It is our intention that amateur operators in the United States be allowed to experiment with the full range of modulation types. ...in order to comply with international regulations, we are obligated to limit the interference potential of amateur stations, especially those transmitting in frequency bands shared with other services."

The almost 1,300 WARC-'79 emission designators replaced the previous system of 14 designators used in Part 97. "The greater specificity had the unintended effect of restricting previously permitted operations." The FCC proposes to remedy this by adopting a much simpler system of 9 general emission terms that are already familiar to most amateur operators. These are:

(1.) **CW:** Single-channel amplitude-shift keyed telegraphy emissions in international Morse code for aural or automatic reception.
(2.) **MCW:** Single-channel modulated tone telegraphy emissions in international Morse code for aural or automatic reception.
(3.) **Phone:** Telephony emissions.
(4.) **Image:** Single-channel emissions for facsimile and television.
(5.) **RTTY:** Single-channel emissions for narrow-band direct-printing.
(6.) **Data:** Data emissions, including packet radio.
(7.) **Pulse:** Pulse emissions.
(8.) **SS:** Spread Spectrum
(9.) **Test:** Emissions containing no modulation or no information for on-the-air transmitter adjustment, two-tone amplifier linearity testing, antenna measurements, direction finding, ranging, etc.

Deleted: Rule provisions for digital and spread spectrum transmissions between amateurs in the United States and other countries. "No such [treaty] arrangements currently exist."

(c.) Advancing Skills - "Today's society is increasingly electronics oriented. Maintenance of a pool of persons knowledgeable in electronics and innovative electronics technology is clearly in the public

interest. There is a critical shortage of personnel skilled in the electronic arts and sciences. ...there is a clear vocational and avocational relationship between electronic competency and the skills and techniques of amateur radio. Amateur radio is the only national reserve of trained communicator/technicians. ...it is in the public interest ...to achieve and enlarge the pool of amateur operators."

"Our primary tool to achieve this end is in providing the motivation to upgrade class of license through increased privileges to each higher operator license class. ...In the past ten years, we have seen the highest of the five amateur classes, Amateur Extra, more than double from 18,794 ...as of January 31, 1987 to 43,902 ...as of December 31, 1987."

Clarified: "We propose to restructure the frequency table without actually affecting amateur operator privileges."

(d.) Training Operators: - ...the rules that place all amateur operators on notice of what they need to know to advance in the amateur service. This subpart clearly defines the requirements for amateur radio operator examinations at each skill level.

(e.) International Goodwill - "Transmissions between amateur stations of different countries are limited by international law to messages of a technical nature relating to tests and to remarks of a personal character that are so unimportant as not to justify recourse to the public telecommunications service."

The amateur service is the only service outside of the common carrier services where two-way communications between private individuals in different countries are permitted. Practically every country allows some form of amateur radio communications. As a result, the amateur service is a potentially strong and credible projector of a nation's image abroad. ...International amateur communications are a basis for opinions formed of the United States worldwide."

Alien Reciprocal Operating Privileges - "At any given time, about 1,500 reciprocal operating permits are outstanding. The FCC proposes to eliminate the Part 97 Subpart G in favor of conveying necessary information concerning alien operator privileges in the new Subpart B and information on obtaining an alien permit in the new Subpart A. Much of the latter information is also contained in FCC application Form 610-A, Application of Alien Amateur Radio Licensee for Permit to Operate in the United States."

Subpart C: Station Operation Standards

...is comprised of those standards that generally apply to all types of amateur station operation.

Frequency Sharing - "We do not assign stations or designate transmitting frequency channels in the amateur service. Rather we rely upon the control operator to select the station's transmitting channel from those frequencies available... Good amateur practice requires that the control operator monitor prospective transmitting channels and then select a channel where the station's transmissions will not cause harmful interference and will minimize incidental interference to other on-going communications. We propose to state this concept with a new 97.203 called 'frequency sharing'. Certain duties are inherent in any shared frequency environment - namely cooperation in channel selection and use to prevent harmful interference and to make the most effective use of the frequencies. We propose to state these duties explicitly in the rules."

Station Licensee Responsibilities - Clarified: Commission authority to inspect amateur stations and records. Current rules are spread among three sections.

Control Operator Duties - ...duties of a licensed control operator are explicityly stated. "By making decisions about equipment suitability, frequency selection, emission modes, message content, etc., the control operator is the key to proper operation of an amateur station. Without the control operator, unidentified and unauthorized uses of frequencies are possible."

Points of Communication and Permissible one-way communications - includes a blanket waiver for the retransmission of space shuttle communications and provision for ATV (amateur television) stations to idenfity in color. Self-assigned identifers to station call signs also permitted. Incorporated in the rules is the basic premise that the amateur service has its own objectives and is not intended to be used as an alternative to other radio services or communications facilities.

Business Communications - "A 'swap net' is a series of communications between two or more amateur stations conducted for the purpose of buying and selling amateur equipment. Current policy permits amateur stations to transmit information about the availability of amateur radio equipment but prohibits business communications. In this context, amateur

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radio equipment is equipment normally used in an amateur station by an amateur operator. An asking price may be mentioned, but no subsequent negotiations or bartering may take place. If interest is expressed, the amateur operators should exchange mailing addresses or telephone numbers and finish negotiations using means of communications other than amateur radio. Dealers may not take advantage of this exception. Amateur operators who derive a profit by buying and selling amateur radio equipment on a regular basis are considered dealers and violate the business prohibition if they use amateur service frequencies for this purpose."

Broadcast-Related Activities - "An amateur station may not be used for any activity directly related to program production or newsgathering for broadcast purposes. Amateur radio, however, may be used to convey news information in certain limited and unique circumstances: (1) if the event is unforeseen; (2.) the news information is directly related to the event; (3.) the event involves the safety of human life or the immediate protection of property; and (4.) the news information cannot be transmitted by any means other than amateur radio because of the remote location of the originating transmission or because normal communications have been disrupted."

Quiet Hours - Certain specific time periods for the imposition of restrictions against amateur station transmissions will be removed. Necessary authority contained in new 97.221 "The FCC may restrict operations as necessary to prevent harmful interference."

Damage to Equipment - Current 97.127 prohibiting a licensed amateur from damaging any radio apparatus or installation of another amateur is to be removed from the rules. These complaints should be handled by local law enforcement authorities. "Removal of this rule would not in any way diminish our authority to suspend an amateur operator license for such conduct."

Notice of Violation - Rules are to be removed that specify what an amateur station licensee must do upon receipt of a notice of violation. "Such rules are unnecessary. The correspondence itself specifies what is required, and clearly states any penalties thay may result from failure to respond or comply."

Subpart D: Special Operations

...contains the requirements that apply only to nonstandard operations such as beacons and repeaters, auxilliary operation, remote control of amateur stations and model craft, the Amateur-Satellite Service (AMSAT) and the Radio Amateur Civil Emergency Service (RACES). [The purpose of RACES is to provide for civil defense communications by amateur stations during an emergency.]

"Control operators must be able to control the station from remote control points just as effectively as at a control point physically at the station site Should the control link fail, the remotely controlled station's transmissions must cease after no more than three minutes." FCC believes this requirement may be "unduly restrictive particularly with respect to repeaters that are otherwise functioning properly" and asks for comments on whether this time limit can be further relaxed, and if so, what time limit would be appropriate.

Amateur-Satellite Service - "This service epitomizes the experimental nature of the amateur radio services and the dedication and ability of amateur operators to contribute to the advancement of the radio art. It has enabled amateur operators to participate directly in space programs and has generated tremendous interest in space communications by amateur operators. OSCAR-1, the first amateur radio satellite, was launched into orbit in December, 1961. Since that time, with a series of OSCAR satellites, amateur operators have continued their experimental efforts to achieve reliable, predictable long-distance and long-duration radio communications on HF and shorter wavelength bands. The amateur satellite service was incorporated into the amateur service rules following its recognition in the Final Acts of the 1971 Space WARC. Today, amateur OSCAR satellites are used for real-time and delayed transmission from anywhere beyond the major portion of the earth's atmosphere. We have replaced current detailed notification of intended space operation in the amateur-satellite service by reference to the requirements in the ITU Radio Regulations."

Subpart E: Technical Standards

...contains the remaining technical standards.

"...there is no need to specify precisely the maximum bandwidth that a transmitted signal may occupy. Our primary spectrum conservation approach is to encourage the good amateur practice of each amateur station transmitting in a manner that ensures that its signals are not unnecessarily broad. To this end, proposed 97.401 generally requires an

WOULD YOU LIKE TO BECOME A VOLUNTEER EXAMINER? "I am a currently licensed Extra Class amateur radio operator and [illegible]
under "The W5YI Report" Program. If so, please send a copy of your [illegible]
operator license revoked or suspended. I do not own a significant [illegible]

amateur station transmission to occupy no more channel bandwidth than necessary for the information rate and emission type transmitted."

"**Packet radio** is a currently burgeoning digital communications field. Packets are individual short bursts of digitally encoded data that take only milliseconds to send. Packet radio employs the time sharing capabilities of digital technology to conserve spectrum. The proposed rules provide flexibility to encourage continued development of efficient digital codes."

Subpart F: Qualifying Examination Systems

...contains the requirements for the preparation, administration and coordination of amateur radio operator examinations. [Novice and VE/VEC System.]

References to the disposition and retention of examination papers in 97.26(f), 97.27(d) and 97.28(h) have been deleted. "The rules should not hamper the increasing user of personal computers in administering paperless examinations."

New Part 97.503 - "A telegraphy examination must consist of a message sent in the international Morse code at no less than the prescribed speed for 5 minutes. No message known to the examinee may be administered in a telegraphy examination. Each 5 letters of the alphabet must be counted as 1 word. Each numeral, punctuation mark and prosign must be counted as 2 letters of the alphabet."

New Part 97.173 - ...The examinee is responsible for knowing all the letters of the alphabet, numerals 0-9, period, comma, question mark, slant mark and prosigns AR, BT and SK.

The code examination changes are:
(1.) Code tests need not contain every letter, numeral and specified punctuation and prosign;
(2.) Slant mark to be considered punctuation rather than prosign DN; and
(3.) All prosigns will count as 2 characters. Previously they counted as one character.

Appendix 1: ...lists the geographic areas where the amateur service is regulated by the Commission.

Appendix 2: ...lists the volunteer-examiner coordinator (VEC) regions.

Appendix 3: ...is a glossary of terms used in the proposed rules. Terms requiring definition are italicized when first used in the rules followed by a parenthetical definition. [For consistency in reference to frequencies, the following terminology is used: Frequency range (VHF, UHF, etc.), wavelength band (10 m, 70 cm, etc.), frequency segment (50.1-51.0 MHz, etc.), channel and frequency.]

Appendix 4: ...is a summary of the frequency sharing requirements for the Amateur Radio Services stated in Part 2.105 and 2.106. Previously they were stated in Part 97.7.

CONCLUSION.....

The FCC seeks comments on **NPRM Docket 88-139** from the public, the amateur community, and publishers and distributors of commercial versions of Part 97. The Commission has included extensive cross reference lists in the NPRM for current and proposed new proposed Part 97 to make it easier to determine its previous and replacement rules.

Comment period closes on **August 31, 1988**, reply comments on **October 31, 1988**. Comments (original and five copies - nine copies if each Commissioner is to receive a copy) should be sent to: **Office of the Secretary, FCC, Washington, D.C. 20554.**

The new proposed Part 97 is very extensive and the version digested here is necessarily highly condensed. The FCC's nearly one hundred typewritten pages has been typeset by the Department of Commerce. **The W5YI Report** has had several hundred booklets printed up detailing the new proposed Part 97 rules and will have these available for purchase at this week's **Dayton HamVention** (Booth 475) We have also reserved a quantity for our subscribers to mailorder. Cost is $4.00 postpaid. (From: **W5YI Report; P.O. Box #565101, Dallas, Texas 75356-5101**) Shipment is immediate.

A legal defense fund has been set up by well-known amateur **Joe Schroeder/W9JUV** to assist the **220-Spectrum Management Association of Southern California** and the **Westlink Radio Network** (**Bill Pasternak/WA6ITF**). They are being sued by a self-professed repeater coordination group called the **220-MHz Frequency Coordination Commission.** The suit claims remarks made by 220-SMA president **Karl Pagel/N6BVU** to this newsletter and others ...and aired over the **Westlink Radio News** were libelous and slanderous to them and their organization. Contributions for **The Westlink Legal Defense Fund** go to **P.O. Box 406, Glenview, Illinois 60025**

MARCH VE PROGRAM STATISTICS

	March	1986	1987	1988
No. VEC's		*76	*63	*62
Testing Sessions		342	444	438
VEC	1986	1987	1988	
ARRL	53.5%	43.5%	43.4%	
W5YI	14.9	31.5	30.1	
CAVEC	7.0	5.2	4.8	
DeVry	6.1	5.9	6.4	
Others	21.4	13.9	16.3	
Year-to-Date Sess:		890	1036	1140
Elements Administ.		6839	9352	10252
VEC	1986	1987	1988	
ARRL	60.5%	52.5%	51.2%	
W5YI	11.0	20.2	21.5	
CAVEC	7.4	7.2	5.6	
DeVry	4.4	4.7	4.0	
Others	16.7	15.3	17.7	
Year-to-Date Elem.		15501	18513	23052
Applicants Tested		4637	6183	6088
VEC	1986	1987	1988	
ARRL	60.2%	52.1%	50.4%	
W5YI	10.7	20.8	23.1	
CAVEC	7.5	6.6	5.0	
DeVry	4.7	4.9	4.0	
Others	16.9	15.6	17.5	
Year-to-Date Tested		10607	12380	13504
Pass Rate - All		62.2%	58.6%	62.2%
Pass Rate - W5YI		62.7%	56.1%	53.4%
Applicants/Session		13.6	13.9	13.9
Appl./Session W5YI		10.2	9.1	9.3
Elements/Applicant		1.5	1.5	1.7
Sessions Per VEC		4.5	7.1	7.1
Administrative Errors by VE's/VEC's				
Defect. Applications		0.9%	0.3%	1.3%
Late Filed Sessions		2.1%	0.5%	1.6%
Defective Reports		3.2%	0.9%	2.3%

***Note:**
The FCC Considers ARRL, W5YI and DeVry to be 13 VEC's each since VEC's are appointed on a regional basis. The 13 regions are: Call Sign districts 1 through 0 plus Alaska (11), Carribean (12) and Pacific Insular areas (13).

Source: FCC; Washington, D.C.

ABOUT THE NEW W5YI REPORT "LOOK"....

As you no doubt noticed, the **W5YI Report** looks a little different than usual. Instead of using our Tandy Model 4 with Scripsit word processing and a Daisy Wheel II printer, this issue was produced using a **Tandy 3000HL** (640K RAM/40 mb drive), and a **Tandy LP-1000** laser printer. **"WordPerfect"** word processing is imported into **"PageMaker"** desktop publishing software and typeset with **Bitstream Fontware** "Swiss" 10-pt. font. We tried several hand-ware/software combinations before we settled on the above. Everything is still "new" to us - and sort of "painful." We are still "learning" the process and (hopefully) page layout will improve even further. If any readers have suggestions for further improvement - or suggestions for other software we should obtain, let us know. We also reverted back to our "American Typewriter" font style logo.

MARCH AMATEUR LICENSING STATISTICS

March	**1985**	**1986**	**1987**	**1988**
New Amateurs	2001	1606	795	2733
Upgrading:				
Novices	933	877	373	1636
Technicians	418	311	116	632
Generals	376	337	138	486
Advanced	196	230	90	384
Total:	**1923**	**1755**	**717**	**3138**
Renewals:				
Novices	549	232	406	428
Total:	3768	3324	4017	6043
Purged:(*)	518	1237	1271	946
Census:				
Change	+1483	+439	-776	+1670

By Class:

Extra	**Advan.**	**Gen.**	**Tech.**	**Nov.**	**Total:**
March 1985:					
36496	97490	116888	80850	79051	**410775**
March 1986:					
39225	98765	117911	85147	79744	**420787**
March 1987:					
41443	97429	115015	85760	81045	**420692**
March 1988:					
44617	98505	113900	95256	82705	**434983**

Club/ RACES/ Military	(1985) 2850	(1986) 2740	(1987) 2499	(1988) 2379
Total Active	**413625**	**423527**	**423191**	**437362**
% Increase		+2.4%	-.1%	+3.3%

(*="Purged" are amateurs that have been removed from the Master File.)

Source: FCC; Gettysburg, Pennsylvania

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National Volunteer Examiner Coordinator

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May 1, 1988

TANDY INTRODUCES ERASABLE CD STORAGE

On Thursday, April 21, Tandy Corporation caught the financial community totally flat-footed. Tandy /Radio Shack had a press conference scheduled to announce a new product. Everyone was certain that it would be their new IBM PS/2 "MicroChannel" compatible PC. They were partly right. Tandy debuted a new 80386 chip-based high performance Tandy 5000. **But that wasn't the big news!**

Tandy announced the **first erasable compact disc** designed to inexpensively record audio or video ...or store data from a personal computer. The value of Tandy stock soared some $5.5 million in just 48 hours following the announcement. For the first time ever, it is possible to record and erase digital information, whether music, data or video, on a CD-compatible optical disc.

Tandy has applied for a number of patents on its **Thor-CD** technology which follows the same technique used in conventional optical discs: using a laser beam to read a series of microscopic pits in a light reflecting disc. What makes **Tandy Thor-CD** the technological breakthrough in optical media is that the pits, which are environmentally stable and permanent in nature, can be erased, allowing editing and re-recording, over and over again.

Tandy's **Thor-CD** Technology is the result of years of research and development at the Tandy Magnetic Research Center in Santa Clara, California. Exhaustive testing has confirmed **Thor-CD**'s ability to record, erase and play back digital information that is virtually indistinguishable from the original source material. The first commercial use of will be CD-audio, it being the least demanding on the hardware and the media. Tandy's compact disc recorder will sell in the $500 range and will be available in about 18 months. It is certain to meet with tremendous opposition from the recording industry.

Next likely product will be a personal computer data storage device which requires greater precision and error checking capabilities. **One Thor-CD disc has the astounding capacity of 15,000 5-1/4" floppies**. Floppy and hard disc drives could become obsolete. In an effort to obtain widespread acceptance, Tandy will be licensing its technology to other manufacturers. Tandy president, **John V. Roach**, said that ultimately, the Thor-CD technology could produce hundreds of millions of dollars in profit for the Tandy Corporation.

HIGH VOLTAGE LINES SPARK CANCER FEAR

The **Miami Herald** reports that "Despite weak scientific evidence of danger, a state environmental panel recommended Friday (April 15th) that Florida become the first state to limit public exposure to magnetic fields from high-voltage power lines."

The state Environmental Regulations Commission listened to two days of testimony from engineering, biological and health experts about conflicting studies suggesting there might be a link between certain cancers and magnetic/electrical fields emanating from power lines. Electromagnetic RF energy such as radiated by ham radio operators apparently was not discussed.

Philip Cole, an epidemiologist at the **University of Alabama** at Birmingham said that of 26 nationwide studies, 10 showed no link between high exposure to power lines and health problems. He said that the other 16 studies showed some relationship, but that a 'direct link' with health problems "is not a credible scenario."

Dr. David Carpenter, dean of the School of Public Health at the **State University of New York** at Albany, agreed that people are exposed to possibly dangerous levels of electric and magnetic waves from appliances and power lines but that: "The level of exposure one gets from an electric blanket for eight hours is higher than the exposure one would get from a high power line. The evidence (of biological hazards) to date does not constitute proof, ...but one cannot ignore it."

Researcher, **David Savitz** testified that his 1983 study showed that Denver children exposed to magnetic fields showed nearly double the average rates of cancer and leukemia.

The commission agreed unanimously that the state should adopt separate exposure limits for both magnetic and electrical fields. Six states already have set electrical field limits, but none have ventured to regulate exposure to magnetic fields.

The two standards which involve measuring separate electrical and magnetic fields radiated per meter of property will only effect power lines to be constructed in the future. Another hearing is scheduled before the new standards go into effect. [One wonders what effect the new standards will have on RF energy radiated by amateur radio stations.]

● A Wellington (Florida) homeowners group calling itself **Residents for Safe Power** filed a class action suit on April 13 against Florida Power & Light demanding that a recently installed power line near their property be removed. FPL called their concerns "conjectural phobia."

● High Tech DX Catching! **Automated Packet Radio Networks** are being used by many amateurs to "bird dog" DX stations on the air. DX Packet System spotting stations are sprouting up everywhere. YCCC (Yankee Clipper Contest Club), REDXA (Redwood Empire DX Association), NCDXC (Northern California DX Club, NCCC (Northern California Contest Club), Middle Tennessee DX Club, North Alabama DX Club, Lone Star DX Association ...and many others have active DX packet reporting systems. "**PacketCluster**" operating system software (available from: Pavillion Software, Box #803, Hudson, MA 01749) creates a continuous automated packet network that instantaneously lists DX stations entered into the system by any packet operator. As many as a hundred DXers have been hooked into a single network and linking of several PacketCluster nodes is in the works!

UPDATE ON FM AMERICA'S, KEITH LAMONICA

Keith E. Lamonica, W7DXX, (formerly of Murray Utah, and more recently of Myrtle Beach, South Carolina) ceased operation of AM broadcast radio station WKEL (his initials) in Myrtle Beach during the second week of March 1988 and has maintained a low profile since. According to the Enforcement Branch of the FCC, Lamonica's request to transfer ownership of the broadcast station was never approved and legally WKEL is still licensed to Wayne Thomas and Thomas Loehr of New Martinsville, West Virginia.

Lamonica, who formerly hosted the backyard dish broadcast operation known as **FM AMERICA** left Utah in November 1987 to operate the defunct AM station formerly operated in the Myrtle Beach area as WMYB and WCSE at 1450 KHz. Although he tried several formats, including CNN News and Satellite Music Network, during the four months WKEL was on the air, the station was not a commercial success.

Several aspects of Lamonica's operation of WKEL are currently being investigated by the Enforcement Branch of the FCC's Mass Media Bureau.

Lamonica's **FM America International, Inc.**, which offered common stock for approximately 4½-months during late 1986 was suspended in January 1987 for failing to provide necessary ownership and financial reports and was placed in "involuntary dissolution" by the State of Utah Corporations Office in January 1988.

AMSAT PHACE 3C UPDATE - ALL SYSTEMS "GO"

The first AMSAT-NA launch team returned to its home base in the U.S. last week from ESA's **Kourou Space Center** in French Guyana and a second team completed spacecraft fueling operations. Even while this was going on, the countdown clock was edging towards a launch of AMSAT's Phase 3-C satellite in about 6 weeks. Depending on what happens with preparations with the V-23 launch - now scheduled for May 11, AMSAT's payload on V-22 could be launched on or about June 1. The new flight designations have the flight sequence out of order, that is, V-22 follows V-23.

Returning from Kourou, Tuesday, April 12, AMSAT-NA Team Leader **Jan King/W3GEY** said everything was going well in preparing the spacecraft for launch. All the transponders have been tested and their frequencies have been calibrated. In addition, the thermal coatings have been applied and the solar cells cleaned and prepared. King's assessment was that progress achieved to date placed the project close to planned schedule.

The arrival of the AMSAT-NA second team in Kourou April 9 marked the beginning of the critical spacecraft fueling operation which was completed the weekend of April 16-17. A third team is set to deploy to Kourou.

The task of the third team is to participate in integrating the spacecraft into the launcher itself. Then, when this is done, they will monitor the spacecraft condition via telemetry links to assure all systems are functioning normally right up through launch time.

The launch will be covered live on the **AMSAT Launch Information Network Service** (ALINS). The network will provide worldwide radio coverage of the launch from numerous transmitters in the U.S., UK, South Africa and elsewhere. Live feeds for repeater operators are available in the operator pays the cost of the telephone link to the conference bridge. Contact **W0RPK** for details.

With the launch countdown finally closing in on day-zero, expectations are high in AMSAT circles and in the Amateur Radio community at large that

they are about to witness the birth of the most powerful OSCAR to date. Many have already prepared their Mode JL stations for the new satellite. Mode JL (2 meters uplink/70 cm downlink) is expected to dominate operating times since its performance will far exceed any other mode ever fielded.

•▬•▬•

"PLUG-IN" PACKET TNC FOR THE MS-DOS PC

Packet radio operation has been greatly popularized by the availability of low cost TNC's. These external standalone units operate with only one radio at a time and require a separate terminal (usually a PC with terminal software)

Digital Radio Systems, Inc., of Clearwater, Florida has developed an internal plug-in **PC*Packet Adapter** accessory card for the PC/XT/AT and IBM compatible clones. The PCPA card provides two logically independent packet TNC's and an on-board (single chip) modem for 1200 baud VHF tones and a second port that connects to DRSI's 300 baud HF-modem. The **HF*Modem** has an LED tuning indicator to make HF packet simple and easy. It uses the RS-232 standard to connect with the PCPA.

DRSI's AX.25 packet software (featuring simultaneous, dual-port, multi-connect packet operations) runs on the PC's CPU, totally replacing the external TNC. A station equipped with the PCPA and HF*Modem can monitor and QSO with stations on VHF and HF simultaneously. The **PC*Packet Adapter** goes on sale at the **Dayton HamVention** this weekend at $99. (Regular introductory price of $119.95 goes to $139.95 on July 1.) Available from: **Digital Radio Systems, Inc.**; 2065 Range Road; Clearwarter, FL 34625. **Andy Demartini/KC2FF** (President) is already working on advanced software and hardware enhancements to this initial product set. These efforts are directed at both the amateur and commercial data communications markets. (Tel: 813) 461-0204 for additional information.)

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CANADA PROPOSES NO-CODE HAM LICENSE

In November of 1985, the Department of Communications released a "Discussion Paper" (similar to our Notice of Inquiry) entitled "**Possible Restructuring of the Amateur Radio Service in Canada.**" 594 comments were received with 86% of the replies from amateurs, 14% from non-amateurs. Of the total responses received, 26.7% were against the proposal, 25.1% in favor, 41.1% in favor but with "modifications", 7% had "no opinion.".

Canada's new "no-code" anateur license structure has now reached what amounts to the NPRM stage. Following is an outline of Canada's proposed changes to the **General Radio Regulations Part II** (GRRII) and the **Radio Operator's Certificate Regulations** (ROCR). The new Certificate "A" (amateurs get certificates - not licenses in Canada) will allow prospective amateurs to obtain an entry level certificate (and operate on 6 meters and higher) without having to take a Morse code examination. As the Canadian government sees it...

Certificate "A":
...requires knowledge of International/domestic regulations, operating procedures, basic electronics. antennas, transmission lines, propagation, interference detection/suppression in exchange for operating privileges on all frequencies and all emissions above 30 MHz at 250 watts maximum transmitter input power. Commercially designed/marketed tranmitters ONLY but all other equipment may be home brewed. 100 question entry level examination with passmark of 60% required. Examination emphasis will be on amateur operation rather than electronics.

Certificate "B":
...requires Morse code sending/receiving at 25 characters/minute (5 wpm) for a period of not less than three consecutive minutes. Allows additional 3.5-4.0 MHz operation. (Certificate "A" and/or "D" must also be held.)

Certificate "C":
Morse code sending/receiving proficiency at 60 characters per minute (12 wpm) for three minutes allows operation in all bands below 30 MHz. Interesting wrinkle! If candidates achieve a mark of 50% or more at 12 wpm and have not passed 5 wpm, they will be given credit for 5 wpm! (Certificate "A" and/or "D" must be held.)

Certificate "D":
...holders may build their own transmitting equipment but first must pass an advanced (50 question multiple choice/passmark 60%) electronic theory examination covering: transmitters, receivers, amplifiers, advanced construction practices, schematic diagrams, test equipment, digital techniques and circuit analysis/repair procedures. Syllabus will be geared to "electronic theory" rather than "amateur operation". "Mathematical tables" may be referred to, but not pre-programmed into calculators. Maximum power of 1,000 watts allowed. (Certificate "A" must also be held.)

ARRL MAKES 220-MHZ EX PARTE PRESENTATIONS TO FCC

The ARRL has shown no signs of letting up in their efforts to prevent the FCC from reallocating the 220-222 MHz band to commercial and government land mobile operations [General Docket 87-14]. The League conducted in-person **ex parte presentations** on March 31 to the Private Radio Bureau, and on April 11th to Commissioners **Patricia Dennis** and **James Quello**. The League's Washington lobbyist, **Chwat/ Weigend**, participated in the April 11th presentation.

An ex parte [pronounced ex-par-tay] presentation is usually a discussion between FCC personnel and parties that are affected by some FCC proposal. Because it occurs after comment deadlines have passed, but before the Commission acts on an item, the meeting must be documented with a letter placed in the formal record of a proceeding.

Ex parte proceedings can also be in written form. The ARRL submitted a written ex parte presentation to the FCC's Chairman **Dennis Patrick** on April 15. It was a detailed engineering report titled "Potential for Vehicular Nationwide Network Use of 30-50 MHz," authored by QST Editor, **Paul L. Rinaldo, W4RI**, and members of the League Technical Staff.

The paper is squarely directed at **United Parcel Service** which wants 220-222 MHz reallocated to narrow band business use so that it may place delivery truck radios in that spectrum. UPS wants to use **Amplitude Compandored Single Sideband (ACSSB)** instead of digital modulation, which is gaining more attention (and research dollars) as an alternative to FM. On the other hand, ACSSB radios are now available and in use at 150 MHz. [ACSB, the common acronym for narrow band sideband emission, is a trademark of the **Aerotron Corporation**. The League therefore refers to it as ACSSB.]

The sheer size and significance of United Parcel Service as a large, mobility-dependent corporation may be one of the most important factors affecting the FCC's decision.

The ARRL report attempts to persuade the FCC that it should consider putting UPS in the 30-50 MHz VHF range (commonly called "low band") instead of 220. The report argues that:

(1.) 30-50 MHz provides the best propagation in rural and suburban areas of any frequencies in the 30-1000 MHz range ...thus fewer base stations and repeaters are needed.

(2.) Aperture of a 1/4 wavelength whip antenna at 30 MHz is approximately 54 times that of a 1/4 wavelength 220 MHz whip ...giving greater pickup efficiency for low band antennas; and

(3.) 30-50 MHz is less crowded than other commercial bands. ARRL thinks that enough channels are available there for UPS to have exclusive use throughout the country. It listed 17 channels in the 31-32 MHz band as "candidates."

However, the report surprisingly also mentioned some drawbacks of 30-50 MHz, thus possibly diluting its persuasive message:

(1.) 30-50 MHz tropo, sporadic E skip and F-layer (during high MUF) propagation can result in more interference in the band;

(2.) Low-band antennas are too big for hand-held radios;

(3.) Vehicle inspection and maintenance are necessary to reduce ignition noise effects.

The ARRL recommended that other modulation methods, especially digital be considered before assuming that ACSSB is best. Although ACSSB exhibits some "capture effect" similiar to FM, "digital transmission schemes for both data and voice may provide superior capture effect depending upon the specific type of modulation used."

The report also pointed out that even though ACSSB occupies less spectrum than FM, its spectrum efficiency is reduced by higher susceptibility to adjacent-channel interference.

Will the FCC take ARRL's advice? 200-MHz is a desirable, "high-tech" band that is already the subject of this reallocation proceeding. If UPS and the land mobile industry were to look fondly at low-band VHF, the FCC might consider changing gears, but it would be a long shot. ACSBB may not have all the advantages of digital - but if it's good enough for UPS, the Commission might reason - it's good enough for 220.